PowerCommand® Network Controls and Communications Module

(FT-10)

Description

The PowerCommand Controls and Communications Module (CCM) provides local or remote monitoring and control of power system equipment such as generator sets, transfer switches and related switchgear. The CCM includes 3-phase voltage and current inputs, 32 discrete and 10 analog inputs for comprehensive monitoring. Eight output relays allow additional control of the monitored equipment. The CCM is available for Generator Set and Transfer Switch applications as well as other applications. The CCM may be configured for automatic alarm dial-out of fault conditions.

Features

- Complete 3-phase AC monitoring including Voltage, Current, Frequency, Power Factor, Real Power, Reactive Power and Energy.
- 32 discrete dry contact inputs for monitoring equipment.
- 10 analog inputs for monitoring Engine Oil and Exhaust Temperatures, Oil Pressure and Genset Battery Voltage.
- 8 relay outputs (Form C) for controlling equipment.
- Automatic alarm dial-out of all fault conditions to a user-defined location.
- Module firmware can be upgraded in the field.
- Supports wide variety of temperature and pressure sensors.
- May be connected at any point in the Power-Command Network.
- Output relays may be used to control genset, transfer switch, or other equipment functions.
- May be remotely monitored and controlled with PowerCommand Software for Windows® V2.0.
- Potted assembly is environmentally protected.
- Pluggable connectors allow one-time wiring.
- Transfer Switch applications include rechargeable battery and charger.

Specifications

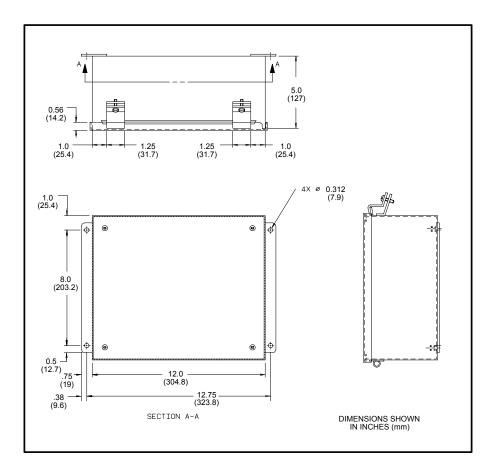| Network		Power	
Echelon® LONWORKS®,Twisted-Pair 78KBPS, FT-10		Voltage	5 - 36 VDC, 120 VAC
		Current	1.25 A (max)
Protocol			
Echelon LonWorks, GOAL		**Temperature**	
		Operating	-25 to +70 °C (-13 to +158 °F)
Inputs		Storage	-25 to +85 °C (-13 to +185 °F)
3-Phase Voltage	0 - 600 VAC (Line-to-Line)		
3-Phase Current	0 - 5 A (AC)	**Humidity**	
32 Discrete	Dry Contact (N.O. or N.C.)	Relative	25 - 95% (non-condensing)
10 Analog	(4) 0-9 VDC, (4) 0-5 VDC, (2) 0-36 VDC		
Outputs (Revision B)			
8 - Form C Relays	500 mA @ 125 VAC, or 2A @ 30 VDC		
Outputs (Beginning Revision C)			
8 - Form C Relays	5 A @ 250 VAC or 3A @ 30 VDC		

Generator Set Applications

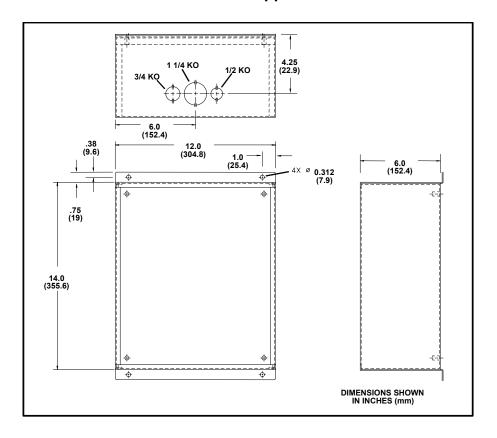| AC Data	Engine Data	Genset Status	Genset Control
Voltage (3-Phase)	Engine Temperature	Common Alarm	Start/Stop
Current (3-Phase)	Exhaust Temperature	Low Fuel	Emergency Stop
Power Factor	Oil Temperature	Low Engine Temp	Reset Fault
Frequency	Oil Pressure	Overspeed	Relay 4
Real Power	Genset Battery Voltage	High Engine Temp	Relay 5
Reactive Power	Spare Temperature	Low Oil Pressure	Relay 6
	Fuel Remote	Pre-High Engine Temp	Relay 7
	3 Analog I/O Spares	Pre-Low Oil Pressure	Relay 8
		Genset Running	
		Switch in Off	
		16 Customer Inputs	

Transfer Switch Applications

AC Data (Load)	Analog Data	ATS Status	ATS Control
Voltage (3-Phase)	CCM Battery Voltage	Normal Available	Load Shed/Restore
Current (3-Phase)	9 Analog I/O Spares	Emergency Available	Transfer Inhibit/Enable
Power Factor		Normal Connected	Remote Test
Frequency		Emergency Connected	Retransfer Inhibit
Real Power		Test/Exercise	Relay 5
Reactive Power		Backup Source Available	Relay 6
		Low Battery Voltage*	Relay 7
		High Battery Voltage*	Relay 8
		Battery Charger Failure	
		Bypass to Normal	
		Bypass to Emergency	
		Transfer Pending	
		16 Customer Inputs	

* Genset Battery Voltage.

Dimensions

Generator Set Applications

SECTION A-A

DIMENSIONS SHOWN
IN INCHES (mm)

Transfer Switch Applications

DIMENSIONS SHOWN
IN INCHES (mm)

Specifications May Change Without Notice   S-1422a (3/03)

Transfer Switch Applications

The CCM (Transfer Switch) is powered by an integral rechargeable battery (with battery charger). The battery charger requires 120 VAC. If 120 VAC is not available, order the appropriate Power Transformer Kit from the table below.

Part Number	Description (Primary Voltage)
0300-4870-01	Power Transformer Kit (208, 240, 480 VAC)
0300-4870-02	Power Transformer Kit (347, 380, 416 VAC)
0300-4870-03	Power Transformer Kit (600 VAC)

The following Transfer Switch options are required for complete monitoring and control of an Onan Transfer Switch.

Signal	Required Option
Normal Available	Signal Module
Emergency Available	Signal Module
Normal Connected	Normal Position Relay
Emergency Connected	Emergency Position Relay
Test/Exercise	Signal Module
Backup Source Available	Signal Module
High Genset Battery	Battery Charger Alarms
Low Genset Battery	Battery Charger Alarms
Load Shed*	Load Shed
Transfer Inhibit*	Power Sentry
Remote Test*	Power Sentry

* Transfer Switch Inputs.

Ordering Information*

Model	Description
0541-0810	Controls Communications Module, Genset (CCM-G), FT-10
0541-0811	Controls Communications Module, Transfer Switch (CCM-T), FT-10

If line-to-line voltages exceed 600 VAC, external Potential Transformers (PTs) are required. A Current Transformer (CT) Kit may also be required to monitor line currents. See PowerCommand and Network Installation and Operation Manual (0900-0529).

See your distributor for more information

Power Generation

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Warning: For professional use only.
Must be installed by a qualified service technician. Improper installation presents hazards of electrical shock and improper operation, resulting in severe personal injury and/or property damage.

Windows is a registered trademark of Microsoft. Echelon and LONWORKS are registered trademarks of Echelon. PowerCommand is a registered trademark of Cummins Inc. Cummins Power Generation is a subsidiary of Cummins Inc.

Warning: Backfeed to a utility system can cause electrocution and/or property damage. Do not connect generator sets to any building electrical system except through an approved device or after building main switch is open.